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Quinisulcius punici (Tylenchorhynchidae: Tylenchida), a new nematode species from India

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Abstract. The description of a new species belonging to the genus *Quinisulcius* Siddiqi, 1971 under the family Tylenchorhynchidae (Eliava, 1964) Golden, 1971 has been reported.

Keywords. New species : *Quinisulcius punici.*

1. Introduction

Siddiqi in 1971, erected the genus *Quinisulcius* and transferred to it the species with five lateral lines previously included in the genus *Tylenchorhynchus* Cobb, 1913. Knobloch (1975) formulated a key to the females of this genus. Mahajan (1974) reported another species *Q. himalayae* from India.

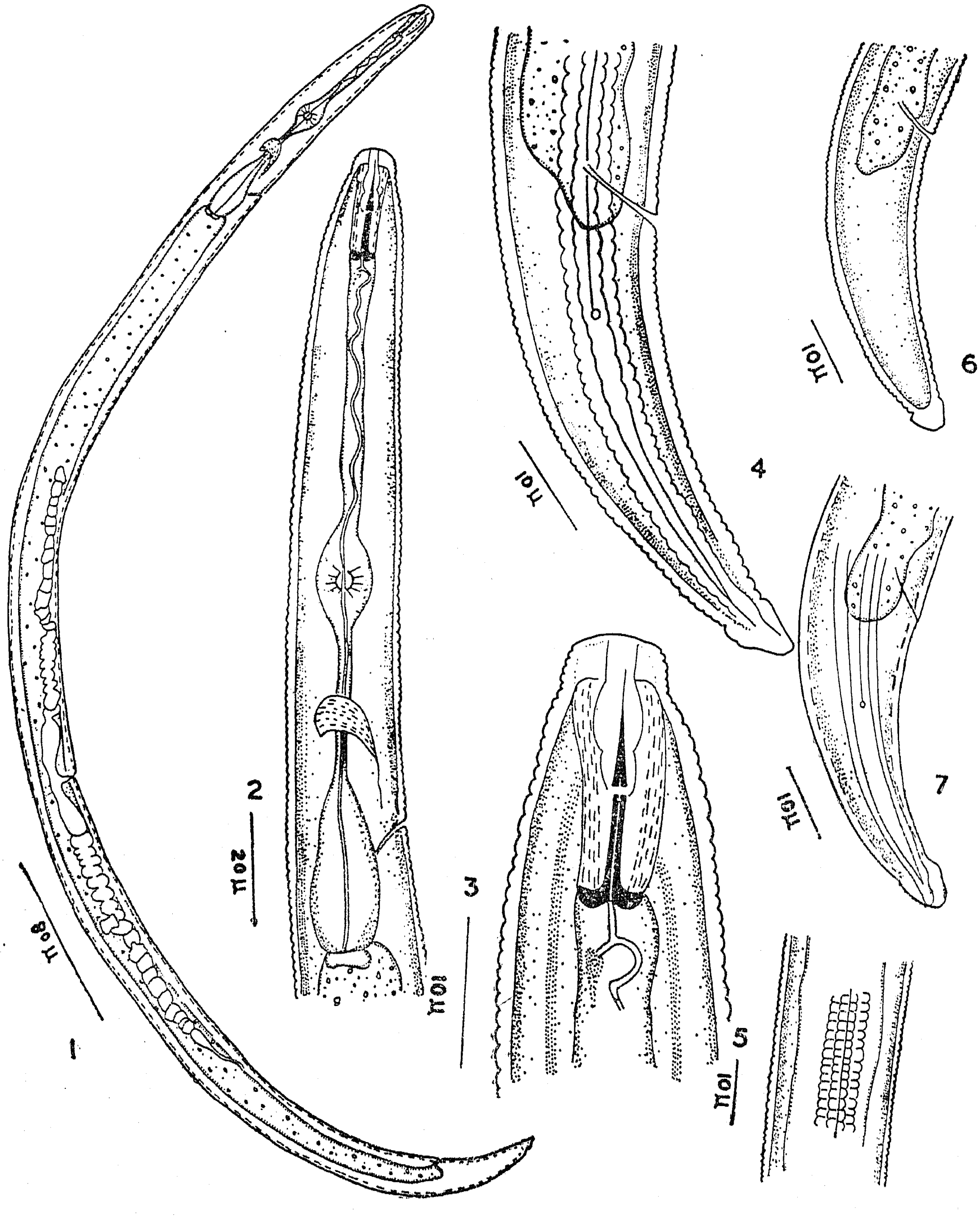
The species belonging to the genus *Quinisulcius* are ectoparasites of a wide variety of economically important plants. Their correct identification is essential for further investigations.

2. *Quinisulcius punici* n. sp. (Figures 1–7)

2.1. *Dimensions*

Srinagar population (type):
Holotype ♀ : $L = 0\cdot707$ mm; $a = 30$; $b = 5\cdot3$; $c = 16$; $V = 57\%$; $c' = 2\cdot8$; stylet = 16 μ.
Paratype ♀♀ ($n = 4$) : $L = 0\cdot657$–$0\cdot76$ mm; $a = 31$–34; $b = 4\cdot8$–$5\cdot3$; $c = 14\cdot8$–$17\cdot2$; $V = 50$–56%; $c' = 2\cdot6$–3; stylet = 16–17 μ.
Kasauli population:
♀♀ ($n = 4$): $L = 0\cdot65$–$0\cdot73$ mm; $a = 32$–33; $b = 4\cdot8$–$5\cdot1$; $c = 15\cdot2$–$17\cdot6$; $V = 55$–59%; $c' = 2\cdot3$–$3\cdot2$; stylet = 16–17 μ.

Simla population:
♀♀ ($n = 3$); $L = 0\cdot69$–$0\cdot71$ mm; $a = 28$–32; $b = 5\cdot4$–$5\cdot5$; $c = 14\cdot7$–$17\cdot8$; $V = 55$–56%; $c' = 2\cdot1$–$3\cdot1$; stylet = 17 μ.



Figures 1–7. *Quinisulcius punici* n. sp. (female) **1.** Entire, **2.** Oesophageal region, **3.** Anterior end, **4.** Tail region, **5.** A portion showing aerolation, **6.** and **7.** Tail variation.

2.2. *Description*

Female: Body assuming from a *c*-shape to spiral form upon fixation. Cuticle marked by transverse striae, 1 μ apart near the base of oesophagus. Lateral fields aerolated, more conspicuously in anterior region; occupying about 2/7 the corresponding body-width; marked by five incisures, others being crenate. Lateral fields narrowing anteriorly; posteriorly extending up to tail terminus. Lip region not very distinctly set off from body contour, 8μ × 4·5μ bearing 6–7 annules. Cephalic framework lightly sclerotized. Stylet moderately developed; basal knobs well developed with their anterior margins directed anteriorly, about 4μ across. Orifice of dorsal oesophageal gland about 2μ from stylet base. Oeophagus typical to the genus. Nerve ring enveloping the isthmus at about its middle. Excretory pore 108μ from anterior end, located slightly anterior to middle of oesophageal bulb; hemizonid 3 annules long, immediately anterior to excretory pore. Oesophago-intestinal valve well developed. Vulva slit-like vagina occupying 3/8 ths of valval body-width. Spermathecae not seen. Ovaries paired, outstretched; oocytes arranged in single profile. Rectum half the anal body diameter long. Post-anal intestinal sac present, less than one anal body-width long. Tail conoid, bearing 38–42 annules, ending in a smooth terminus, the latter being distinctly set off from body contour. Phasmids distinct, located in anterior thirds of tail.

Male: Not found.

Type habitat and type locality : From soil around roots of *Punica granatum* (Pomegranate), from Srinagar (J and K), India.

Habitats and localities of other populations : *Juglans rigia* from Kasauli (Himachal Pradesh)
A wild plant from Simla (Himachal Pradesh).

2.3. *Diagnosis and relationship*

The present new species resembles *Quinisulcius acti* (Hopper 1959) Siddiqi, 1971 and *Q. capitatus* (Allen 1955) Siddiqi, 1971 but can be differentiated from both of them since they do not have an aerolated lateral field and post-anal intestinal sac and have an offset lip region with 8 annules. Further in *Q. acti* the stylet knobs are laterally inclined; in *Q. capitatus* the stylet knobs are sloping posteriorly and tail annules are 26.

Quinisulcius punici n. sp. also resembles *Q. himalayae* Mahajan, 1974 in having an aerolated field and presence of post-anal sac, but can be differentiated from it as the latter (*Q. himalayae*) has an annulated tail terminus, excretory pore 120–155μ from anterior end, post-anal sac slightly more than two anal body widths long, tail with 44–58 tail annules, lip region completely offset, with 8 annules, and a stylet 17–24μ long with basal knobs sloping slightly posteriorly.

The new species has been named after the host plant, *Punica granatum*.

References

Allen M W 1955 A review of the nematode genus *Tylenchorhynchus*; *Univ. Calif. Publ. Zool.* **61** 129–165

Cobb N A 1913 New nematode genera found inhabiting freshwater and non-brackish soils ; *J. Wash. Acad. Sci.* 3 432–444

Eliava I Y 1964 The position of the genus *Tylenchorhynchus* within the Tylenchoidea (Nematoda : Tylenchida) ; *Soobschch. Akad. Nauk Gruz., SSR*, **34** 669–673

Golden A M 1971 Classification of the genera; and higher categories of the other Tylenchida (Nematoda). eds. B M Zuckerman, W F Mai and R A Rhode, in *plant Parasitic nematodes* vol. 1. (New York and London ; Academic Press) pp. 191–252

Hopper B E 1959 Three new species of the genus *Tylenchorhynchus* (Nematoda : Tylenchida); *Nematologica* **4** 23–30

Knobloch N A 1975 *Quinisulcius tarjani* sp. n. (Nematoda : Tylenchorhynchinae) with a key to *Quinisulcius* species and notes on their plant parasitic nematodes ; *Proc. Helminth Soc. Wash.* **42** 52–56

Mahajan M R 1974 *Tylenchorhynchus kashmirensis* sp. n. and *Quinisulcius himalayae* sp. n. (Nematoda : Tylenchorhynchinae) from India ; *Proc. Helminth. Soc. Wash.* **41** 13–16

Siddiqi M R 1971 Structure of the oesophagus in the classification of the super-family Tylenchoidea (Nematoda) ; *Indian J. Nematol.* **1** 25–43